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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,771	10/06/2003	Byung-Woong Han	21C-0067	8547

7590 08/23/2006  
CANTOR COLBURN LLP  
55 Griffin Road South  
Bloomfield, CT 06002

EXAMINER

KIM, RICHARD H

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/679,771

Applicant(s)

HAN ET AL.

Examiner

Richard H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,7,10,11,14,16-19 and 21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4,7,10,11,14,16-19 and 21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 10, 11, 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito (US 6,075,649) in view of Yamaguchi (US 6,876,408 B2).

Referring to claims 1, 7, 18, Naito discloses a device comprising a lamp assembly (26) for generating light; a diffusion plate (24) for diffusing the light; a LCD panel assembly (30) for displaying images using the light from the prism sheet and image data externally provided; a prism sheet for adjusting paths of light externally provided, comprising a light incident surface for receiving light, and a light emission surface for emitting light incident on the light incident surface, wherein the light emission surface includes at least two inclined surfaces on which the light is incident and refracted, and a peak angle between the two inclined surface is in a range from about 90° to 120° (col. 4, lines 11-15). However, the reference fails to disclose that the refractive index of the prism sheet is in a range from about 1.4 to 1.7.

Yamaguchi discloses a device wherein the refractive index is in a range from about 1.4 to 1.7 (col. 13, lines 30-36).

It would have been obvious to one having ordinary at the time the invention was made to employ a device wherein the refractive index is in a range from about 1.41 to

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1.49 since one would be motivated to produce an image of high contrast over a wide range of viewing angles (col. 2, lines 23-24).

Referring to claim 2, Naito discloses the device wherein the light emission surface includes a plurality of light concentration units each having the at least two includes surface and the peak angle (col. 4, lines 11-15).

Referring to claims 3 and 19, Naito further discloses a device wherein the light concentration units each have a shape of a prism column and are arranged parallel with each other in a longitudinal direction of the light concentration units (Fig. 1).

Referring to claim 4, Naito discloses a device wherein one of the two inclined surfaces forms a first angle with respect to the light incident surface and the other of the two inclined, the first and second angles are equal to each other (Fig. 2).

Referring to claims 10 and 11, Naito and Yamaguchi discloses the device previously recited, but fails to disclose that the light emission angle is in a arranged from about  $5.86^{\circ}$  to about  $26.23^{\circ}$ , and that the inclined surfaces are configured such that light incident on one of the inclined surfaces are travels in accordance with the claimed equations 1 to 3.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the light emission angle to be in a arranged from about  $5.86^{\circ}$  to about  $26.23^{\circ}$ , and that the inclined surfaces are configured such that light incident on one of the inclined surfaces are travels in accordance with the claimed equations 1 to 3 since Naito and Yamaguchi discloses the claimed structural limitations of the device, having the light behave in accordance with the structural limitations of the device would naturally occur and is therefore obvious.

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Referring to claim 16, Naito discloses that the prism sheet is made of polycarbonate (col. 3, lines 39-41).

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naito and Yamaguchi in view of Stevenson (US 6,846,089 B2).

Naito and Yamaguchi discloses the device previously recited, but fails to disclose the device wherein the body is integrally formed with the light incident surface and the light emission surface.

Stevenson discloses a device wherein the body is integrally formed with the light incident surface and the light emission surface (218).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the body to be integrally formed with the light incident surface and the light emission surface since one would be motivated to reduce the number so separate parts needed for the display.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naito and Yamaguchi in view of Kojima et al. (US 5,797,668).

Naito and Yamaguchi disclose the device previously recited, but fails to disclose that the refractive index varies in proportion to a value of the peak angle.

Kojima et al. discloses a device wherein the refractive index varies in proportion to a value of the peak angle (abstract).

It would have been obvious to one having ordinary skill in the art for the refractive index to vary in proportion to a value of the peak angle since one would be motivated to increase the head-on luminance (abstract).

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naito and Yamaguchi et al. in view of Moon et al. (US 2003/086255 A1).

Naito and Yamaguchi et al. disclose the device previously recited, but fails to disclose the device wherein the lamp assembly has a plurality of lamps arranged in parallel with each other in a selected direction, the lamps being disposed at a side of the diffusion plate opposite to a side at which the prism is disposed.

Moon et al. discloses a device comprising a plurality of lamps arranged in parallel with each other in a selected direction, the lamps being disposed at a side of the diffusion plate opposite to a side at which the prism sheet is disposed (Fig. 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a plurality of lamps arranged in parallel with each other in a selected direction, the lamps being disposed at a side of the diffusion plate opposite to a side at which the prism sheet is disposed since one would be motivated to improve light efficiency (paragraph 15).

### ***Response to Arguments***

6. Applicant's arguments filed 2/1/06 have been fully considered but they are not persuasive.

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7. In response to Applicant's argument that Naito teaches away from the range of about 90° to 140°, Examiner submits that Naito actually anticipates angles that falls within the range of 90° to 140°. Even though "there is not particular restriction imposed with regard to this vertex angle", Naito clearly discloses values of angles that falls within the claimed range. The cited range of 30 degrees to 120 degrees clearly encompasses values that are within the claimed range. Therefore, that claim limitation is anticipated by Naito.

8. In response to Applicant's argument that Yamaguchi teaches away from a light emission surface with a "peak angle", Examiner submits that Yamaguchi was incorporated to provide for the missing limitations in Naito. Naito discloses a peak angle (col. 4, lines 11-15). In response to Applicant's argument that there is no motivation to combine Yamaguchi with Naito, in either reference, motivation is established in col. 2, lines 23-24.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

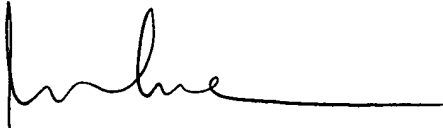
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard H Kim  
Examiner  
Art Unit 2871

RHK



DUNG T. NGUYEN  
PRIMARY EXAMINER